

TAB J

PART 3



COPY OF PAPERS
ORIGINALLY FILED

Docket No.: 6014-2-CON

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#8/a Ude

4/10/02

In re patent application of: Keith Leighton Group Art Unit: 1733
Serial No.: 09/368,846 Examiner: J. Aftergut
Filed: August 5, 1999 Date: February 13, 2002
For: Hot Lamination Process for the Manufacture of a Combination
Contact /Contactless Smart Card and Product Resulting Therefrom

AMENDMENT AND REQUEST FOR RECONSIDERATION
UNDER 37 C.F.R. §1.111

Assistant Commissioner For Patents
Washington, D.C. 20231

Sir:

In response to the Official Action dated, please amend the above-identified application as follows:

IN THE SPECIFICATION:

On page 1, replace the paragraph before "Field of the Invention", with the following paragraph:

This application is a continuation of copending application 08/918,582, filed August 19, 1997, now U.S. Patent No. 6,036,099, which claimed the benefit of provisional application serial no. 60/024,255, filed August 21, 1996; a continuation-in-part of copending application 08/727,789 filed October 7, 1996, now U.S. Patent No. 5,817,207, which claimed the benefit of provisional application serial no. 60/005,685, filed on October 17, 1995.

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Docket No. 8014-2-CON
Serial No. 09/368,846

On page 4, replace the first paragraph after "Summary of the Invention" with the following:

The present invention is therefore directed to a hot lamination method for the manufacture of a plastic card having at least one electronic element embedded therein as well as at least one electronic element with an exposed contact surface and to such plastic cards. The card has an overall thickness in the range of 0.028 inches to 0.032 inches and comprises a plastic core having at least one electronic element embedded therein with at least one of the upper and lower surfaces of the core comprising a coating printed or otherwise applied thereon. A portion of the ~~card~~card's outer surface exposes a contact surface electronic element operatively connected to the ~~card~~card's internal electronics. An overlamine film is preferably provided over the coated surface of the core and the resulting card has a variation in thickness across the surfaces thereof of no greater than approximately 0.0005 inches.

IN THE CLAIMS:

1. (Amended) A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:

- (a) providing first and second plastic core sheets;
- (b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;
- (c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:
 - (i) heating said core for a first period of time;
 - (ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;
 - (iii) cooling said core while applying a second pressure to said core; and

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(d) milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said electronic element.

Cancel claim 11.

Add new claims 25 through 30.

25. (New) The process according to claim 1, wherein the pressure on said core is step (c)(i) is less than 10 p.s.i.

26. (New) The process according to claim 1, wherein said core is heated in step (c)(ii).

27. (New) A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:

(a) providing first and second plastic core sheets;

(b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;

(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:

(i) heating said core for a first period of time;

(ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;

(iii) cooling said core while applying a second pressure to said core.

28. (New) The process according to claim 27, further comprising:
forming a cavity in said core.

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Serial No. 09/368,846

29. (New) The process according to claim 28, wherein the step of forming a cavity in said core comprises:

after step (c), milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said electronic element.

30. (New) The process according to claim 28, wherein the step of forming a cavity in said core comprises:

at least one core sheet having a cavity formed therein; and:

before step (c) inserting a spacer into said cavity, said spacer substantially filling said cavity and covering said at least one electronic subcomponent; and

after step (c) removing said spacer for the cavity of said core.

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REMARKS

Claims 1 through 10 and 12 through 30 are in the case. Claim 1 is amended by this amendment. Claim 11 is canceled by this amendment. Claims 25 through 30 are added by this amendment.

Attached is a clean version of the changes made to the specification and claims by the current amendment. The attached pages are captioned **"Clean Version Incorporating Changes Made"**

Accompanying this amendment are a Petition for Revival of an Application for Patent Abandoned Unintentionally and a Terminal Disclaimer to Obviate a Double Patenting Rejection.

The Examiner required restriction to one of the following inventions under 35 U.S.C. § 121:

- I. Claims 1-19, and 22-24, drawn to a method of laminating a chip bearing card, classified in class 156, subclass 153.
- II. Claims 20 and 21, drawn to a laminated card, classified in class 235, subclass 488.

The Examiner further required election of a single disclosed species between the species where the recess was formed via a milling operation and the species where the recess was preformed and maintained with a spaced during the laminating operation.

Applicant affirms the telephone election of November 30, 2000 of Group I and the species of milling out the recess for the contacts, claims 1 through 17, 23 and 23.

New claims 25 and 26 are dependent from claim 1, and therefore read on the species of milling out the recess. New claims 27 and 28 are generic. New claim 29 reads on the species of milling out the recess and new claim 30 reads on the species of preforming the cavity.

Claims 1 through 17, 23 and 24 are rejected under 35 U.S.C. §112, second paragraph. Specifically, claim 1, line 12 ends with a ".", but the claim does not end there. Claim 1 has been amended as suggested.

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Claim 11 is rejected under 35 U.S.C. §101 as claiming the same invention as that of claim 1 of prior U.S. Patent no. 6,036,099. Claim 11 has been cancelled.

Claims 1 through 17, 23 and 24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 through 16 of U.S. Patent no. 6,036,099. Claims 1 through 17, 23 and 24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 through 17 of U.S. Patent No. 5,817,207 in view of Templeton, Jr. et al.

Enclosed is a terminal disclaimer disclaiming the term of any patent that issues from this application that extends beyond the term of U.S. Patent No. 6,036,099 or U.S. Patent No. 5,817,207. Applicant submits that this terminal disclaimer obviates this rejection.

Claims 1, 4 through 10 and 14 through 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent 6-176214 in view of UK 2,279,610 and Templeton, Jr. et al optionally further taken with UK 2,225,283. Claims 2, 3, 11 through 13, 23 and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent 6-176214 in view of UK 2,279,610 and Templeton, Jr. et al optionally further taken with UK 2,225,283, and further taken with UK 2,294,899.

The specification has been amended to claim the benefit of provisional applications serial nos. 60/024,255, filed August 21, 1996 and 60/005,685, filed on October 17, 1995. The January 11, 1995 publication date of UK 2,279,610 is less than one year before the October 17, 1995 filing date of provisional application 60/005,685. Therefore, UK 2,279,601 is not prior art to the present application.

Support for claims 1, 4 through 10, 14 through 17 and new claim 27, relative to the disclosure of UK 2,279,601 can be found on page 11 of provisional application serial no. 60/005,685.

With respect to UK 2,225,283, the reference does not disclose or suggest placing the assembly into the press and then heating the press and assembly under minimal pressure as does Applicant's invention. The '283 reference specifically states that the press is heated first and then the assembly is inserted into the press. Further, the


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'283 reference does not disclose or suggest a further increase in the pressure while cooling the assembly. The '283 reference specifically states that the laminate is cooled with the pressure *maintained* at its highest value.

Generic claim 27 is also patentable over the prior art for the same reasons as stated above for claim 1. Since a generic claim is allowable, applicant respectfully that the restriction be withdrawn and claims 1 through 10 and 12 through 30 be allowed.

Respectfully submitted,
Hahn Loeser & Parks LLP

Date February 15, 2002


Michael H. Minns
Reg. No. 31,985

Hahn Loeser + Parks LLP
1225 West Market Street
Akron, Ohio 44313
(330) 864-5550

Docket No. 6014-2-CON
Serial No. 09/368,846

Clean Version Incorporating Changes Made

IN THE SPECIFICATION:

On page 1, replace the paragraph before "Field of the Invention", with the following paragraph:

A1
This application is a continuation of copending application 08/918,582, filed August 19, 1997, now U.S. Patent No. 6,036,099, which claimed the benefit of provisional application serial no. 60/024,255, filed August 21, 1996; a continuation-in-part of copending application 08/727,789 filed October 7, 1996, now U.S. Patent No. 5,817,207, which claimed the benefit of provisional application serial no. 60/005,685, filed on October 17, 1995.

On page 4, replace the first paragraph after "Summary of the Invention" with the following:

A2
The present invention is therefore directed to a hot lamination method for the manufacture of a plastic card having at least one electronic element embedded therein as well as at least one electronic element with an exposed contact surface and to such plastic cards. The card has an overall thickness in the range of 0.028 inches to 0.032 inches and comprises a plastic core having at least one electronic element embedded therein with at least one of the upper and lower surfaces of the core comprising a coating printed or otherwise applied thereon. A portion of the card's outer surface exposes a contact surface electronic element operatively connected to the card's internal electronics. An overlamine film is preferably provided over the coated surface of the core and the resulting card has a variation in thickness across the surfaces thereof of no greater than approximately 0.0005 inches.

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Serial No. 09/368,846

IN THE CLAIMS:

~~SUB B1~~

A3

1. (Amended) A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:
- (a) providing first and second plastic core sheets;
 - (b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;
 - (c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:
 - (i) heating said core for a first period of time;
 - (ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;
 - (iii) cooling said core while applying a second pressure to said core; and
 - (d) milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said electronic element.

Cancel claim 11.

Add new claims 25 through 30.

~~SUB B3~~
A4

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~~SUB B4~~

25. (New) The process according to claim 1, wherein the pressure on said core is step (c)(i) is less than 10 p.s.i.
26. (New) The process according to claim 1, wherein said core is heated in step (c)(ii).
27. (New) A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:
- (a) providing first and second plastic core sheets;

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Serial No. 09/368,846

(b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;

(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:

- (i) heating said core for a first period of time;
- (ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;
- (iii) cooling said core while applying a second pressure to said core.

21
28. (New) The process according to claim 27, further comprising:
forming a cavity in said core.

25
SUB 25
29. (New) The process according to claim 28, wherein the step of forming a cavity in said core comprises:
after step (c), milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said electronic element.

30. (New) The process according to claim 28, wherein the step of forming a cavity in said core comprises:
at least one core sheet having a cavity formed therein; and:
before step (c) inserting a spacer into said cavity, said spacer substantially filling said cavity and covering said at least one electronic subcomponent; and
after step (c) removing said spacer for the cavity of said core.

COPY OF PAPERS
ORIGINALLY FILED



Docket No. 6014-2-CON

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re patent application of: Keith Leighton Group Art Unit: 1733
Serial No.: 09/368,846 Examiner: J. Aftergut
Filed: August 5, 1999 Date: February 15, 2002
For: Hot Lamination Process for the Manufacture of a Combination
Contact/Contactless Smart Card and Product Resulting Therefrom

Assistant Commissioner for Patents
Washington, D.C. 20231

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MAR 07 2002
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DEPUTY A/C PATENTS

TRANSMITTAL

Transmitted herewith:

1. Petition for Revival of an Application for Patent Abandoned Unintentionally Under C.F.R. §1.137(b) and a check including the small entity fee of \$640.00.
2. Amendment and Request for Reconsideration Under 37 C.F.R. §1.111 and a check including the amount of \$45.00 for additional claims.
3. Terminal Disclaimer to Obviate a Double Patenting Rejection.

Please charge Account 15-0450 for any additional fees may be required by the filing of these papers.

Respectfully submitted,
Hahn Loeser & Parks LLP

Date: February 15, 2002

Michael H. Minns
Reg. No. 31,985

Twin Oaks Estate
1225 West Market Street
Akron, Ohio 44313-7188
(330) 864-5550

CERTIFICATION UNDER 37 C.F.R. § 1.8(a)

I hereby certify that, on the date shown below, this correspondence is being deposited with the United States Postal Service in an envelope addressed to the Assistant Commissioner of Patents, Washington, D.C. 20231 with sufficient postage as first class mail.

Date: February 15, 2002

Signature
Michael H. Minns
Type or print name of person certifying



COPIES OF PAPERS
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Practitioner's Docket No. 6014-2-CON

9
MAR 11-02
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Keith Leighton Group No.: 1733
Application No.: 09368,846 Examiner: J. Aftergut
Filed: August 5, 1999 Date: February 15, 2002
For: Hot Lamination Process for the Manufacture of a Combination
Contact/Contactless Smart Card and Product Resulting Therefrom

Assistant Commissioner for Patents
Washington D.C. 20231

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MAR 07 2002
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DEPUTY A/C PATENTS

**TERMINAL DISCLAIMER TO OBVIATE
A DOUBLE PATENTING REJECTION (37 C.F.R. Section 1.321(c))**

Identification of Person(s) Making This Disclaimer

I, Michael H. Minns, represent that I am the attorney of record.

EXTENT OF DISCLAIMANT'S INTEREST

The extent of the interest in this invention that the disclaimant owns is in the whole of this invention.

DISCLAIMER

(Obviousness-Type Double Patenting Rejection Over A Prior Patent)

Petitioner hereby disclaims, except as provided below, the terminal part of any patent granted on the instant application, which would extend beyond the expiration dates of Patent Nos. 5,817,207, and 6,036,099 as presently shortened by any terminal disclaimer(s). Petitioner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the above-listed patents are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors, or assigns.

In making the above disclaimer, 1) disclaimant is not admitting the propriety of the merits of the double patenting rejections; and 2) disclaimant does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. Sections 154 to 156 and

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Terminal Disclaimer to Obviate a Double Patenting Rejection--page 1

Docket No. 6014-2-CON
Serial No. 09/368,846

173 of the patents forming the basis of the double patenting rejection, namely, Patent Nos. 5,817,207 and 6,036,099, as presently shortened by any terminal disclaimer, in the event that either patent later: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R. Section 1.321, has all claims cancelled by a reexamination certificate, is reissued, or is in any manner terminated prior to expiration of its full statutory term as presently shortened by any terminal disclaimer, except for the separation of legal title stated above.

DISCLAIMER FEE (37 C.F.R. Section 1.20(d))

Small entity--fee \$55.00.

Small entity statement already filed in patent application 09/918,582 on August 18, 1997.

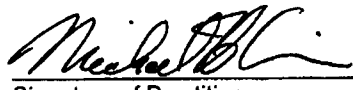
FEE PAYMENT

Enclosed is a check for the \$55.00 fee.

Charge Account No. 15-0450 for any fee deficiency.

Date: February 15, 2002

Reg. No.: 31,985
Tel. No.: 330-864-5550
Customer No.: 021324



Signature of Practitioner

Michael H. Minns
Hahn, Loeser & Parks, LLP
1225 West Market Street
Akron, OH 44313-7188



COPY OF PAPERS
ORIGINAL FILED

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Keith Leighton Examiner: J. Aftergut
Serial No: 09/368,846 Art Unit: 1733
Filed: August 5, 1999 Date: February 15, 2002

#9 1/2
Vose
4/10/02

For: HOT LAMINATION PROCESS FOR THE MANUFACTURE OF A
COMBINATION CONTACT/CONTACTLESS SMART CARD AND PRODUCT
RESULTING THEREFROM

Commissioner of Patents and Trademarks
Washington, D.C. 20231

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

This Supplemental Information Disclosure Statement Under 37 C.F.R. §1.97 is filed more than three (3) months following the filing date of the above-identified patent application.

The filing of this Supplemental Information Disclosure Statement shall not be construed as a representation that a search has been made (37 CFR §1.56(g)), an admission that the information cited is, or is considered to be, material to patentability or that no other material information exists.

The filing of this Supplemental Information Disclosure Statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13, at 25.

This Supplemental Information Disclosure Statement is made to comply with the duty of candor imposed on all individuals associated with the filing or prosecution of this application, as defined by 37 CFR §1.56(c).

A list of the six (6) patents and other cited references cited by the applicant are enclosed on one sheet of Form PTO/SB/08A which is attached and made a part hereof. Copies of the references have been enclosed.

This Supplemental Information Disclosure Statement is based on information contained in the undersigned attorney file as of the date of this statement and is inclusive of the best information known to the undersigned at that date.

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180.00 DP

Supplemental IDS
Serial No. 09/368,846

February 15, 2002
Page 2

The Examiner is kindly requested to consider the Supplemental Information Disclosure Statement in addition to any references identified by the Examiner as a result of his independent search and examination.

Respectfully submitted,
Hahn Loeser & Parks LLP



Michael H. Minns
Registration 31,985

Twin Oaks Estate
1225 West Market Street
Akron, OH 44313-7188
(330) 864-5550

Attorney Docket: 6014-2- *CON*



Practitioner's Docket No. 6014-2-CON

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Leighton, Keith R.

Group No.: 1733

Application No.: 09/368,846

Examiner: J. Aftergut

COPY OF PAPERS:
ORIGINALLY FILED FOR:

August 5, 1999

Date: February 15, 2002

HOT LAMINATION PROCESS FOR THE MANUFACTURE OF A
COMBINATION CONTACT/CONTACTLESS SMART CARD AND
PRODUCT RESULTING THEREFROM

Assistant Commissioner for Patents
Washington, D.C. 20231

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
BEFORE MAILING DATE OF EITHER A FINAL ACTION
OR NOTICE OF ALLOWANCE (37 C.F.R. section 1.97(c))

TIME OF TRANSMITTAL OF ACCOMPANYING
INFORMATION DISCLOSURE STATEMENT

The information disclosure statement transmitted herewith is being filed **after** three months of the filing date of this national application or the date of entry of the national stage as set forth in Section 1.491 in an international application or after the mailing date of the first Office action on the merits, whichever event occurred last but **before** the mailing date of either

- (1) a final action under section 1.113 or
- (2) a notice of allowance under section 1.311

whichever occurs first.

FEE

2. Accompanying this transmittal is the fee for submission of an information disclosure statement under section 1.97(c). (\$180.00)

FEE PAYMENT

3. Applicant elects the option to pay the fee set forth in 37 C.F.R. section 1.17(p) for submission of an information disclosure statement under section 1.97(c) (\$180.00).

Fee due \$ 180.00

METHOD OF PAYMENT OF FEE

4. Attached is a check in the amount of \$ 180.00.

If any additional fees are due, please charge Deposit Account Number 15-0450.

Date: February 15, 2002

Reg. No.: 31,985
Tel. No.: 330-864-5550
Customer No.: 021324

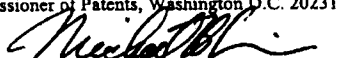

Signature of Practitioner

Michael H. Minns
Hahn Loeser & Parks LLP
Twin Oaks Estate
Akron, OH 44313

CERTIFICATION UNDER 37 C.F.R. § 1.8(a)

I hereby certify that, on the date shown below, this correspondence is being deposited with the United States Postal Service in an envelope addressed to the Assistant Commissioner of Patents, Washington D.C. 20231 with sufficient postage as first class mail.

Date: February 15, 2002


Signature

Michael H. Minns
Type or print name of person certifying

(Transmittal of Information Disclosure Statement before Mailing Date of Either a Final Action Or Notice of Allowance--page 2 of 2)

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Project (12-1845), no persons are required to respond to a collection of information unless it contains a valid OMB control number.

[illegible][illegible]

Examiner Signature	<i>A. J. O'Leary</i>	Date Considered	<i>5/7/02</i>
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

conformance and not considered—include copy of this form with next communication to applicant:

1 Applicant's unique citation designation number (optional); ² See Kind's Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04; ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3); ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document; ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible; ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
www.uspto.gov

Paper No. 10

HAHN LOESER & PARKS LLP
TWIN OAKS ESTATE
1225 WEST MARKET STREET
AKRON, OH 44313-7188

COPY MAILED

APR 05 2002

OFFICE OF PETITIONS

In re Application of :
Keith Leighton :
Application No. 09/368,846 :
Filed: August 5, 1999 :
Attorney Docket No. 6014-2-CON :

ON PETITION

This is a decision on the petition under 37 CFR 1.137(b), filed March 5, 2002, to revive the above-identified application.

The petition is **GRANTED**.

The above-identified application became abandoned for failure to reply in a timely manner to the non-final Office action mailed December 6, 2000, which set a shortened statutory period for reply of three (3) months. No extensions of time under the provisions of 37 CFR 1.136(a) were obtained. Accordingly, the above-identified application became abandoned on March 7, 2001.

Telephone inquiries concerning this decision should be directed to Irvin Dingle at (703) 306-5684.

The application file is being forwarded to Technology Center 1700 for further processing.


Irvin Dingle

Petitions Examiner
Office of Petitions
Office of the Deputy Commissioner
for Patent Examination Policy



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
 Washington, D.C. 20231
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/368,846	08/05/1999	KEITH R. LEIGHTON	6014-2-CON	6007

21324 7590 05/08/2002
 HAHN LOESER & PARKS, LLP
 TWIN OAKS ESTATE
 1225 W. MARKET STREET
 AKRON, OH 44313

EXAMINER

AFTERGUT, JEFF H

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 05/08/2002

//

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/368,846	LEIGHTON, KEITH R.	
	Examiner	Art Unit	
	Jeff H. Aftergut	1733	

72-4

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 05 March 2002.

2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-10 and 12-30 is/are pending in the application.

4a) Of the above claim(s) 18-22 and 30 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-10, 12-17 and 23-29 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 92

4) ☐ Interview Summary (PTO-413) Paper No(s) _____

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other:

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Terminal Disclaimer

1. The terminal disclaimer does not comply with 37 CFR 1.321(b) and/or (c) because:

The person who signed the terminal disclaimer has failed to state his/her capacity to sign for the corporation or other business entity, and he/she has not been established as being authorized to act on behalf of the assignee.

2. An attorney or agent, not of record, is not authorized to sign a terminal disclaimer in the capacity as an attorney or agent acting in a representative capacity as provided by 37 CFR 1.34
- (a). See 37 CFR 1.321(b) and/or (c).

Double Patenting

Election/Restrictions

3. Newly submitted claim 30 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claim 30 is directed to the species of forming the cavity with the use of a spacer which was previously identified as a non-elected species which was elected without traverse (see below).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 30 has been withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

4. Applicant's election of Group I, the species of milling to form the cavity, claims 1-10, 12-17, 23-29 in Paper No. 8 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

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Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-17 and 23-29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 6,036,099.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims presented herein are generic to the operation as recited in the earlier patent and therefore the subject matter of the same are covered by the earlier claimed patent, see *In re Goodman*, 29 USPQ2d 2010 and paper no. 5, paragraph 11.

7. Claims 1-17 and 23-29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. %,817,207 in view of Templeton, Jr, et al. Applicant is referred to paper no. 5, paragraph 12 for a complete discussion of the rejection.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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9. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 6-176214 in view of UK 2,279,610 optionally further taken with UK 2,225,283 for the same reasons as expressed in paper no. 5, paragraph 14.

Newly presented claim 27 does not require the milling out of a cavity in the finished card (or for that matter the formation of a cavity in the card). The reference to Templeton Jr. et al cited in paper no. 5 paragraph 14 was used only to support the conclusion that it would have been obvious to form a cavity via milling in the card. The reference is not needed to reject newly presented claim 27 because the claim does not require the formation of a cavity.

Japanese Patent '214 taught a process for forming a smart card which included the steps of laminating with heat and pressure an assembly which included an IC chip 11 and a thin coil 12 (an antennae). The IC chip 11 and antennae 12 were disposed unsupported between plastic films 14. On either side of plastic films 14 were additional plastic films 15. The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card. The reference to Japanese Patent '214 failed to teach that the heat and pressure laminating operation included a cooling operation while the press remained under pressure.

However, in the art of making a laminated smart card, it was known as evidenced by UK '610 that one skilled in the art when laminating the same together would not have applied high heat and pressure and then removed the same in the lamination operation for processing under such extreme conditions would lead to damage of the chip and/or antennae in the laminate. The reference to UK '610 suggested that one skilled in the art would have interposed a printed circuit 11 with reinforced elements 19 between two outer sheets 37 and 38 of thermoplastic in the PVC

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family with interposed polyester layers coated with thermally activated catalyst adhesive and the assembly was disposed between pressing plates. The assembly was heated and then pressure applied to the same in order to encapsulate the electrical components of the card. Subsequent to the application of this heat and pressure, the pressure was maintained while the card was allowed to cool in the press, see page 11, line 16-page 12, line 12. The reference made clear that in order to avoid damaging the integrated circuit which was being encapsulated that one would have heated the assembly, then applied heat and pressure to the assembly in the press and then cooled the assembly while pressure was maintained. Clearly, one viewing the same would have understood that heat and pressure as well as cooling under pressure would have been performed when laminating the card with the integrated circuit therein. Note that Japanese Patent '214 performed the lamination operation in a heated press. Because it was known to laminate the cards in a press under heat and pressure and because the reference to UK '610 suggested heating and cooling in the press to avoid damaging the cards, it would have been obvious to one of ordinary skill in the art of manufacturing a smart card according to the operations of Japanese Patent 6-176214 wherein the pressing operation was performed in a heated press where the pressure was maintained during the cooling operation as suggested by UK 2,279,610.

While it is believed that the reference to UK '610 suggested that one would have ramped up the pressure during the laminating operation, to further evidence that the highest amount of pressure would have been applied when the assembly was cooled, the reference to UK '283 is cited. UK '283 is manufacturing an integrated circuit card where the assembled layers (which included thin plastic layers which had printing on the layers as well as in integrated circuit therein) were laminated together in a press. The reference taught that the press would have been

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preheated, the pressure applied and then the assembly removed or the assembly would have been preheated and the pressure applied in steps with the highest pressure applied while the assembly was being cooled in the press, see page 11, lines 3-13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a pressing operation in the manufacture of an integrated circuit card wherein the pressure applied would have been the highest when the card was being cooled in the press as suggested by UK 2,225,283 wherein the laminated card was formed by laminating with heat and pressure in a press as suggested by Japanese Patent 6-176214 and UK 2,279,610.

10. Claims 1, 4-10, 14-17 and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 6-176214 in view of UK 2,279,610 and Templeton, Jr. et al optionally further taken with UK 2,225,283 for the same reasons as expressed in paper no. 5, paragraph 14.

With regard to newly presented claims 25 and 26, note that the reference to UK '610 suggested that minimal pressure would have been applied during the initial closure of the press and that the pressure was simply enough to make the plastic layers contact the heated platens. Additionally recognize that the platens were heated during the pressing operation and thus the laminate was subject to heating during pressure application. The exact amount of pressure would have been a function of the material being worked upon and would have been determined through routine optimization based upon the plastic layers employed. Regarding claims 27-29 see the discussion in paper no. 5 for the formation of the cards.

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11. Claims 2, 3, 11-13, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 10 further taken with UK 2,294,899 for the same reasons as expressed in paper no. 5, paragraph 15.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 25, line 1, "the pressure" lacks proper antecedent basis because no pressure has been defined for step (c)(i) of the claim. It is suggested that "the" be deleted. In claim 25, line 1, it is suggested that "'is" be changed to --in--.

Response to Arguments

14. Applicant's arguments filed 3-5-02 have been fully considered but they are not persuasive.

The applicant argues that the terminal disclaimer has overcome the double patenting rejection. The applicant is advised that the terminal disclaimer has not been accepted because it was not signed by an attorney of record, see paragraphs 1 and 2 above.

The applicant argues that the reference to UK 2,279,610 is not available as prior art because applicant filed a provisional application and claims the benefit of the same. without addressing whether applicant has support for the claimed subject matter in the earlier filed provisional applications, the applicant is advised that the UK reference published on January 11,

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1995 which is before applicant's earliest effective date for domestic priority of October 17, 1995. The reference is available as prior art under 35 USC 102(a) because it is a printed foreign patent which was published prior to applicant's effective filing date.

The applicant next addressed the reference to UK 2,225,283 and argues that the reference did not preheat outside of the press and did not change the pressure to supply the highest amount of pressure during the cooling. The applicant is advised that the reference was an optional reference to further express that in the pressure cycle of UK '610 the maximum pressure would have been applied during the cooling operation. Because applicant did not address the teachings of UK '610 (other than to state that it was not a reference), it is believed that applicant agrees with the Office interpretation that the reference produced a card with heat and pressure wherein the same went through a pressure cycle where greater pressure would have been applied in the cooling cycle. UK '283 further evidenced the same. at page 11, lines 10-13 of UK '283 it was clear that those skilled in the art would have gradually increased the pressure during lamination until the cooling cycle was reached where the maximum pressure was applied.

No claims are allowed.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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Page 9

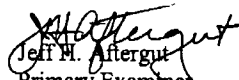
Art Unit: 1733

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 703-308-2069. The examiner can normally be reached on Monday-Friday 6:30-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W. Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jeff M. Aftergut
Primary Examiner
Art Unit 1733

JHA
May 7, 2002

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#12/10/02

Practitioner's Docket No. 6014-2-CON

PATENT

10/4/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Keith R. Leighton Group No.: 1733
Application No.: 09/368,846 Examiner: Aftergut
Filed: 08/05/1999 Date: October 2, 2002

For: HOT LAMINATION PROCESS FOR THE MANUFACTURE OF A COMBINATION
CONTACT/CONTACTLESS SMART CARD AND PRODUCT RESULTING THEREFROM

RESPONSE UNDER
37 C.F.R. § 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP

OFFICIAL
FAX RECEIVED
OCT 03 2002
GROUP 1700

Box AF
Commissioner for Patents
Washington, D.C. 20231

AMENDMENT OR RESPONSE AFTER FINAL REJECTION--TRANSMITTAL

1. Transmitted herewith is an amendment after final rejection (37 C.F.R. 1.116) for this application.

STATUS

2. Applicant is a small entity. A statement was already filed.

EXTENSION OF TERM

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply. Applicant petitions for an extension of time under 37 C.F.R. 1.136 (fees: 37 C.F.R. 1.17(a)(1)-(4)) for two months:

Fee: \$200.00

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10*

I hereby certify that, on the date shown below, this correspondence is being facsimile transmitted to the Patent and Trademark Office, (703) 305-7718.

Date: October 2, 2002

Signature

Michael H. Minns

(type or print name of person certifying)

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FEE FOR CLAIMS

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

	(Col. 1) Claims Remaining After Amendment	(Col. 2) Highest No Previously Paid For	(Col. 3) Present Extra	SMALL ENTITY Rate	Addit Fee
Total	23	Minus 27	= 0	x \$9 =	\$0
Indep	2	Minus 3	= 0	x \$42 =	\$0
First Presentation of Multiple Dependent Claim				+ \$140 =	\$0
				Total Addit. Fee	\$0

Total additional fee for claims required \$0.00

FEE PAYMENT

5. Authorization is hereby made to charge the amount of \$200.00 to Deposit Account No. 15-0450.

Charge any additional fees required by this paper or credit any overpayment in the manner authorized above.

A duplicate of this paper is attached.

FEE DEFICIENCY

6. If any additional extension and/or fee is required, charge Account No. 15-0450.

If any additional fee for claims is required, charge Account No. 15-0450.

Date: October 2, 2002

Reg. No.: 31,985
Tel. No.: 330-864-5550
Customer No.: 021324


Signature of Practitioner

Michael H. Minns
HAHN LOESER & PARKS LLP
1225 West Market Street
Twin Oaks Estate
Akron, OH 44313

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Docket No.: 6014-2-CON

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

10/14/02
JAH
10/9/02

In re patent application of: Keith Leighton

Group Art Unit: 1733

Serial No.: 09/368,846

Examiner: J. Aftergut

Filed: August 5, 1999

For: Hot Lamination Process for the Manufacture of a Combination
Contact /Contactless Smart Card and Product Resulting Therefrom

AMENDMENT AND REQUEST FOR RECONSIDERATION
UNDER 37 C.F.R. §1.111

Assistant Commissioner For Patents
Washington, D.C. 20231

OFFICIAL
FAX RECEIVED
OCT 03 2002
GROUP 1700

Sir:

In response to the Official Action dated May 8, 2002, please amend the above-identified application as follows:

IN THE CLAIMS:

Cancel claims 6, 18 through 22 and 30.

1. (Twice Amended) A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:
 - (a) providing first and second plastic core sheets;

JH2

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Serial No. 09/368,846

(b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;

(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:

(i) heating said core for a first period of time;

(ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;

(iii) cooling said core while applying a second pressure to said core, the second pressure being at least 10% greater than the first pressure; and

(d) milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said at least one electronic element.

15. (Amended) A process as recited in claim 1 comprising the further step of inserting ~~an electronic contact element~~ a second electronic element into said cavity, the second electronic element being in electrical communication with the at least one electronic element.

25. (Amended) The process according to claim 1, wherein the pressure on said core ~~is in~~ step (c)(i) is less than 10 p.s.i.

27. (Amended) A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:

(a) providing first and second plastic core sheets;

(b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;

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Serial No. 09/368,846

(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:

- (I) heating said core for a first period of time;
- (II) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;
- (III) cooling said core while applying a second pressure to said core, the second pressure being at least 10% greater than the first pressure.

29. (Amended) The process according to claim 28, wherein the step of forming a cavity in said core comprises:

after step (c), milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said at least one electronic element.

31. (New) The process according to claim 29, further comprising:

inserting a second electronic element into said cavity, the second electronic element being in electrical communication with the at least one electronic element.

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Serial No. 09/368,846

REMARKS

Claims 1 through 5, 7 through 10, 12 through 17, 23 through 29 and 31 are in the case. Claims 1, 15, 25, 27 and 29 are amended by this amendment. Claims 6, 18 through 22 and 30 are cancelled by this amendment. Claim 31 is added by this amendment.

All claims directed to the non-elected invention have been cancelled.

Attached is a clean version of the changes made to the specification and claims by the current amendment. The attached pages are captioned "**Clean Version Incorporating Changes Made**"

The Examiner stated that the terminal disclaimer filed on February 18, 2002 does not comply with 37 C.F.R. § 1.321 (b) and/or (c) because the attorney, Michael H. Minns, who signed the terminal disclaimer is not of record and therefore is not authorized to sign a terminal disclaimer in the capacity as an attorney or agent acting in a representative capacity.

Enclosed is an Associate Power of Attorney signed by the attorney of record, Mark A. Watkins appointing Michael H. Minns, along with others, to represent Applicant in this application. Also enclosed is a new terminal disclaimer signed by an attorney of record.

Claims 1 through 17, 23 through 29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 through 16 of U.S. Patent no. 6,036,099. Claims 1 through 17, 23 through 29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 through 17 of U.S. Patent No. 5,817,207 in view of Templeton, Jr. et al.

Enclosed is a terminal disclaimer disclaiming the term of any patent that issues from this application that extends beyond the term of U.S. Patent No. 6,036,099 or

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Serial No. 09/388,848

U.S. Patent No. 5,817,207. Applicant submits that this terminal disclaimer obviates this rejection.

Claim 27 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent 6-176214 in view of UK 2,279,610 optionally further taken with UK 2,225,283. Claims 1, 4 through 10 and 14 through 17 and 25 through 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent 6-176214 in view of UK 2,279,610 and Templeton, Jr. et al optionally further taken with UK 2,225,283. Claims 2, 3, 11 through 13, 23 and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent 6-176214 in view of UK 2,279,610 and Templeton, Jr. et al optionally further taken with UK 2,225,283, and further taken with UK 2,294,899.

Independent claims 1 and 27 have been amended to require that the second pressure be at least 10% greater than the first pressure. With respect to UK 2,279,610, on page 12, lines 8-10, the patent application discloses that after the temperature has been raised to about 155°C, full lamination pressure is applied. Next, while still under pressure the assembly is cooled and brought down to room temperature. UK '610 is silent as to what pressure is used while the laminated card assembly is being cooled. There is no teaching or suggestion in UK '610 to **increase** the pressure during cooling to **at least 10% greater than the pressure applied during heating**, as claimed by Applicant in independent claims 1 and 27.

With respect to UK 2,225,283, on page 11, lines 6-13, the patent application discloses that the lamina build-up is either placed into a pre-heated press and then full pressure is immediately applied or the pressure is gradually increased. In one example, the press is pre-heated to 140°C and then pressure is applied in steps. Finally, the laminate is cooled with the pressure *maintained* at its highest value. UK '283 teaches *maintaining* the pressure during cooling at its highest value. UK '283 does not teach or disclose increasing the pressure during the cooling process. One skilled in the art would not be able to conclude that UK '283 teaches increasing pressure during

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Serial No. 09/368,846

the cooling process. Rather, one skilled in the art would conclude that the phrase "maintaining the pressure during cooling at its highest pressure" refers to maintaining pressure during cooling at the highest pressure applied during heating. There is no teaching or suggestion in UK '283 to increase the pressure during cooling to **at least 10% greater than the pressure applied during heating**, as claimed by Applicant in independent claims 1 and 27.

The problem being solved by Applicant is the problem of forming a laminated card with embedded computer chips and electronics that are thin enough to work in connection with existing card reading machinery (specification, page 3, lines 11-20). The problem being solved by UK '283 is preventing flexing of the card, which can cause cracking in the card layers, page 1, lines 15-17. UK '283 then addresses this problem by orienting the "grain" in different card layers at right angles to one another (page 3, lines 23-31) and by embedding star shaped stress reduction members in the laminate (page 4, lines 28-31). Because UK '283 is solving a different problem, laminate cracking, than the problem being solved by Applicant, overall thickness of the laminated card, one skilled in the art would not consider UK '283 to be relevant to the problem of overall card thickness. Therefore, even if UK '283 taught increasing the pressure during cooling, there would be no motivation to combine UK '283 with the other references to solve the problem of card thickness.

Even assuming that the combination of Japanese Patent 6-176214 in view of UK 2,279,610 optionally further taken with UK 2,225,283 were a proper combination, the three references do not teach or suggest, either singly or in combination, Applicant's method as claimed in claims 1 and 27 where the laminate core is cooled while applying a pressure at least 10% greater than the pressure applied to the heated core. Further, this amendment should not require additional searching or raise additional issues because the limitation that the pressure during cooling is at least 10% greater than the pressure applied to the heated core has been present in claim 7 as originally filed.

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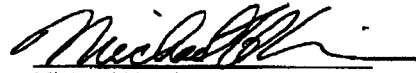
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Docket No. 8014-2-CON
Serial No. 09/368,846

In view of the above, it is respectfully submitted that claims 1 through 5, 7 through 10, 12 through 17, 23 through 29 and 31 are in condition for allowance. Reconsideration of the rejections is requested and allowance of the claims is solicited.

Respectfully submitted,
Hahn Loeser & Parks LLP

Date October 2, 2002


Michael H. Minns
Reg. No. 31,985

Hahn Loeser + Parks LLP
1225 West Market Street
Akron, Ohio 44313
(330) 864-5550

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3308647986 P.10

Docket No. 6014-2-CON
Serial No. 09/368,846

Clean Version Incorporating Changes Made

IN THE CLAIMS:

Cancel claims 6, 18 through 22 and 30.

1. (Twice Amended) A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:

(a) providing first and second plastic core sheets;

(b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;

(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:

(i) heating said core for a first period of time;

(ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;

(iii) cooling said core while applying a second pressure to said core, the second pressure being at least 10% greater than the first pressure; and

(d) milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said at least one electronic element.

15. (Amended) A process as recited in claim 1 comprising the further step of inserting a second electronic element into said cavity, the second electronic element being in electrical communication with the at least one electronic element.

25. (Amended) The process according to claim 1, wherein the pressure on said core in step (c)(i) is less than 10 p.s.i.

OCT-02-2002 15:03

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3306647986 P.11

Docket No. 6014-2-CON
Serial No. 09/368,846

B4 20/21. (Amended) A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:

- (a) providing first and second plastic core sheets;
- (b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;
- (c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:
 - (i) heating said core for a first period of time;
 - (ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;
 - (iii) cooling said core while applying a second pressure to said core, the second pressure being at least 10% greater than the first pressure.

B5 22/28. (Amended) The process according to claim 21, wherein the step of forming a cavity in said core comprises:

after step (c), milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said at least one electronic element.

B6 23/21. (New) The process according to claim 22, further comprising:

inserting a second electronic element into said cavity, the second electronic element being in electrical communication with the at least one electronic element.

OCT-02-2002 15:04

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3308647986 P.12

Practitioner's Docket No. 6014-2-CON

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Keith R. Leighton Group No.: 1733
Application No.: 09/368,846 Examiner: Aftergut
Filed: 08/05/99 Date: October 1, 2002
For: Hot Lamination Process For The Manufacture of a Combination Contact/Contactless
Smart Card and Product Resulting Therefrom

#14/UDC
10/24/02

Commissioner for Patents
Washington, D.C. 20231

ASSOCIATE POWER OF ATTORNEY (37 C.F.R. § 1.34)

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